

## **REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

### **I. Disposition of Claims**

Claims 1-35 were present in the filing of the present application. By way of the Reply to the Restriction Requirement dated March 5, 2003, claims 1-13, 17, 27-30, and 33-35 were withdrawn from consideration. By way of the Reply of September 25, 2003, claims 14, 15, 18-20, 22-24, 26, 31, and 32 were canceled without prejudice or disclaimer, and claims 36-39 were added. By way of the Reply to the Restriction Requirement dated of December 5, 2003, non-elected claims except claims 16, 25, 38, and 39 were cancelled without prejudice or disclaimer. By way of this Reply, claim 40 has been added. Accordingly, claims 16, 25, and 38-40 are currently pending in the present application. Claims 16 and 40 are independent. Remaining claims depend, directly or indirectly, from claim 16.

### **II. Claim Amendments**

Claims 16 and 25 have been amended in this Reply to clarify the present invention recited. Support for these amendments may be found in, for example, the original claims and Paragraph 0155 of the Specification, and Fig. 46(b) of the Drawings. Claim 40 has been added in this Reply. This amendment is fully supported, for example, by Paragraphs 0154 through 0156 of the Specification and Fig. 46(b) of the Drawings. No new matter has

been added.

### **III. Rejection(s) under 35 U.S.C § 112**

Claims 16, 25, 38, and 39 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 16 and 25 have been amended in this reply to clarify the present invention recited.

With respect to claim 16, all of the terms “light-emitting element” have been removed from the claim. Accordingly, withdrawal of this rejection as it applies to this claim is respectfully requested.

With respect to claim 25, amended claim 16, referred to by claim 25, does not include the term “light-emitting element.” Accordingly, withdrawal of this rejection as it applies to this claim is respectfully requested.

### **IV. Rejection(s) under 35 U.S.C § 102**

#### **Claim 16**

Claim 16 stands rejected under 35 U.S.C. § 102 (b) as anticipated by U.S. Patent No. 2,254,961 (“Harris”). For reasons below, this rejection is respectfully traversed.

Independent claim 16, as amended, recites a structure of an optical component. As shown in, for example, Fig. 46(b), the optical component of the present invention has a transparent mold resin 13, in which a light-reflecting portion 20 is insert-molded. A direct emission region 19 is formed in a convex lens shape at a center of a total reflection region 18 formed on a front surface of the mold resin 13, and a recess as an optical element portion 74 is formed on a back surface of the mold resin 13. Paraxial light from a light-emitting

element 12 that will be disposed in the recess passes through the direct emission region 19 directly. Marginal light is reflected by the total reflection region 18 and is incident on the light-reflecting portion 20 whereby a traveling direction of the light is unified, and, thereafter, the reflected light passes through the total reflection region 18. See Paragraphs 0154 through 0156 of the Specification. It is noted that the light from the light-emitting element 12 is indirectly incident on the light-reflecting portion 19. In view of this, claim 1 includes the limitation "said curved reflective surface indirectly receives light passing through said recess."

Harris, in contrast, fails to show or suggest at least the above limitation as recited in claim 16. Harris merely discloses a lens formed in a particular shape. Specifically, the lens shown in Fig. 18 as pointed out by the Examiner has a forward plane face 86, a light source receiving well 87 in the rear face, with a forward wall of the well 87 formed as a central lens section 88, and the reflective margin 89 in parabola-shaped. Light from a light source disposed in the well 87 is *directly* incident on the reflective margin 89 passing through a side wall of the well 87 and thereby emerges out of the lens, parallel to an optical axis of the light source.

On the other hand, the optical component of the present invention does not allow light passing through the recess to be directly incident on the curved reflective surface. In other words, the curved reflective surface as recited in claim 16 *indirectly* receives the light passing through the recess. Thus, the well 87 disclosed in Harris is not the same as, or equivalent to, the recess as recited in claim 16.

In addition, Harris fails to show or suggest the protrusion as recited in claim 16. In fact, the lens shown in Fig. 18 as pointed out by the Examiner does not have a protrusion at

a center of the forward plane face. In the meantime, Harris discloses several structures of lenses as shown in Figs. 4-15 having an elliptical projection at the forward plane face. However, it is noted that, in Harris, either the elliptical projection or the central lens section is exclusively selected. Harris clearly states that “there is a slight modification in which the front surface 79 of the lens is plane, with the lens formed with a lens formed with a rear wall or recess 80 in which the light source is positioned.” (Although the quotation is referred to Fig. 16, it is clear that the quotation is applied to Fig. 18. See page 4, left column, lines 70-74.) Also, there exists nothing, in the whole of the Specification, to teach or suggest that a forward plane face having an elliptical projection reflects light from a light source in a direction of a reflective margin. In a case of the lens having a plane surface 27 surrounding the elliptical projection as shown in Figs. 4 and 5, light from the light source is not reflected by the plane surface 27, but passes directly through the plane surface 27.

In view of the above, Harris fails to show or suggest the present invention as recited in claim 16. Thus, claim 16 is patentable over Harris. Accordingly, withdrawal of this rejection is respectfully requested.

**New Claim 40**

New independent claim 40 has been added. New claim 40 includes the limitation of “a light-emitting element mounted on said circuit board to face said projection through said opening such that light from said light-emitting element is indirectly incident on said light reflecting portion.”

In contrast to the present invention, as mentioned above, in Harris, light from the light source disposed in the well 87 is *directly* incident on the reflective margin 89 passing

through a side wall of the well 87 and thereby emerges out of the lens, parallel to an optical axis of the light source. The structure of the lens shown in Fig. 18 of Harris allows the light from the light source to be *directly* incident on the reflective margin 89. Thus, Harris fails to show or suggest the light-emitting element as recited in claim 40.

In view of above, Harris fails to show or suggest the present invention as recited in claim 40. Thus, the claim 40 is patentable over Harris. Accordingly, entry and allowance of claim 40 is respectfully requested.

## **V. Rejection(s) under 35 U.S.C § 103**

### **Claims 25 and 39**

Claims 25 and 39 stand rejected under 35 U.S.C. §103 (a) as unpatentable over Harris in view of U.S. Patent No. 5,485,317 (“Perissinotto et al”). This rejection is respectfully traversed.

As mentioned above, Harris fails to show or suggest the limitation of “said curved reflective surface indirectly receives light passing through said recess” as recited in claim 16, referred by claims 25 and 39.

Perissinotto et al. fails to teach that which Harris lacks. Perissinotto et al. merely discloses an optical system for light emitting diodes having a cavity that is filled with resin material. Specifically, the inner lens 26 is integrated into the cavity 21 and formed by in-situ polymerization of a suitable resin. There exists nothing in Perissinotto to teach or suggest that the concave longitudinal surface 22 *indirectly* receives light passing through the concave 21.

In view of above, Harris and Perissinotto et al, whether considered separately or in

combination, fail to anticipate or render obvious the present invention as recited in claim 16 as amended. Thus, claim 16 is patentable over Harris in view of Perissinotto et al. Claims 25 and 39 depend, directly or indirectly, from claim 16. Thus, these dependent claims are patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

**Claim 38**

Claim 38 stands rejected under 35 U.S.C. §103 (a) as unpatentable over Harris in view of U.S. Patent No. 6,264,347 (“Godbillon et al”). This rejection is respectfully traversed.

Godbillon et al. fails to teach that which Harris lacks. Godbillon et al. solely discloses an indicating light having a reflector formed in Fresnel echelons. In view of the complete lack of the disclosure of the curved reflective surface *indirectly* receiving light passing through the recess, Harris and Godbillon et al., whether considered separately or in combination, fail to anticipate or render obvious the present invention as recited in claim 16 as amended. Thus, claim 16 is patentable over Harris in view of Godbillon et al. Claim 38 depends from claim 16. Thus, the depending claim is also patentable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested.

**New Claim 40**

As mentioned above, new claim 40 includes the limitation of “said reflective plane reflects incident light directly from said light-emitting element and passes the light reflected by said light reflecting portion such that a traveling direction of the light is substantially parallel to an optical axis of said light-emitting element.”

In contrast to the present invention, as mentioned above, Harris fails to show or


suggest at least the above limitation as recited in claim 40. Further, Perissinotto et al. fails to teach that which Harris lacks. Perissinotto et al. merely discloses an optical system for light emitting diodes having a cavity that is filled with resin material as mentioned above. Furthermore, Godbillon et al. also fails to teach that which Harris lacks. Godbillon et al. merely discloses an indicating light having a reflector formed in Fresnel echelons as mentioned above. Thus, in view of the complete lack of disclosure of the light-emitting element as recited in claim 40, Harris, Perissinotto et al., and Godbillon et al., whether considered separately or in combination, fail to anticipate or render obvious the present invention as recited claim 40. Thus, claim 40 is patentable over Harris, Perissinotto et al., and Godbillon et al. Accordingly, entry and allowance of claim 40 is respectfully requested.

## **VI. Conclusion**

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 15115.005001).

Respectfully submitted,

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 48,885

Jonathan P. Osha, Reg. No. 33,986

Osha & May L.L.P.

One Houston Center, Suite 2800

1221 McKinney Street

Houston, TX 77010

Telephone: (713) 228-8600

Facsimile: (713) 228-8778

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